

IN THE CLAIMS:

Cancel Claims 2, 11, 13-18, 22-33, 35 and 36 without prejudice and amend Claims 1, 3, 10, 12, 19, 20, 34 and 38 as follows:

1. (Currently Amended) A device for modular construction for handling workpieces (22), in particular vehicle chassis (22), said device comprising

a first module having

a handling line (12) with one or more handling regions (14) for the surface treatment of said workpieces (22);

a guide device (44) along said handling line (12) and disposed only on one side of said handling line (12); and

a second module having one or more carriages (20; 40; 60) to which said workpieces (22) may be fixed and which may be moved along said guide device (44); wherein

said carriages (20; 40; 60) each comprise

an outer frame (26);

an inner frame (28) that revolves around a rotary shaft (32) relative to said outer frame (26), whereby said workpieces (22) may be fixed to said inner frame (28);

said rotary shaft (32) of each carriage disposed in an essentially horizontal and perpendicular manner in relation to the direction of movement (C) of said carriages (20; 40; 60) along said handling line (12), and

at least one (60) of said carriages (20; 40; 60) having both rotary and travel drives
(42, 64) said first module is structured and arranged to cooperate and be combined with
various types of said second module.

Claim 2. Canceled

3. (Currently Amended) A device according to claim 1 2,

wherein said guide device comprises at least one rail (44).

4. (Previously Presented) A device according to claim 3,

wherein said carriages (20; 40; 60) have rollers (30) that roll on said at least one rail (44) of said guide device.

5. (Previously Presented) A device according to claim 1, wherein said first module further comprises

a first transfer station (18) that interacts with a first conveying means for supplying said workpieces (22) to be handled; and

a second transfer station (18) that interacts with a second conveying means (46) for removing said handled workpieces (22).

6. (Previously Presented) A device according to claim 5,

wherein said first module further comprises

return means for conveying said carriages from said second transfer station (18) to said first transfer station (18).

7. (Previously Presented) A device according to claim 6,

wherein said return means (70) has a switching means for transferring carriages into or out of a maintenance zone.

8. (Previously Presented) A device according to claim 5,
wherein said carriages (20; 40; 60) in said second transfer station (18) are pivoted
through an angle of approx. 90° around a pivoting shaft (68) in the region of said guide
device (44), and said carriages in said first transfer station (18) are pivoted back through
the same angle in the opposite direction.

9. (Previously Presented) A device according to claim 8,
wherein said pivoting shaft (68) is disposed essentially parallel to said guide device
(44) and on that side of said guide device (44) which faces away from said one or more
handling regions (14).

10. (Currently Amended) A device according to claim 1,
wherein said carriages (20; 40; 60) and said guide device (~~40~~ 44) are designed such
that during the handling of said workpieces (22), all bearings are at any time disposed
outside said one or more handling regions (14).

Claim 11. Canceled

12. (Currently Amended) A device according to claim 11, for modular construction
for handling workpieces (22), in particular vehicle chassis (22), said device comprising
a first module having
a handling line (12) with one or more handling regions (14) for the surface treatment
of said workpieces (22);
a guide device (44) along said handling line (12); and

a second module having one or more carriages (20; 40; 60) to which said workpieces (22) may be fixed and which may be moved along said guide device (44);
wherein

said first module is structured and arranged to cooperate and be combined with various types of said second module,

said first module further comprises

a first transfer station (18) that interacts with a first conveying means for supplying said workpieces (22) to be handled; and

a second transfer station (18) that interacts with a second conveying means (46) for removing said handled workpieces (22),

said carriages (20; 40; 60) comprise

an outer frame (26); and

an inner frame (28) that revolves around a rotary shaft (32) relative to said outer frame, whereby said workpieces (22) may be fixed to said inner frame (28);

said rotary shaft (32) of each carriage is disposed in an essentially horizontal and perpendicular manner in relation to the direction of movement of said carriages (20; 40; 60) along said handling line (12), and

further comprising

means for lifting and/or inclining said rotary shaft (32) relative to said outer frame.

Claims 13-18. Canceled

19. (Currently Amended) A device according to claim 1, for modular construction for handling workpieces (22), in particular vehicle chassis (22), said device comprising

~~a first module having~~

~~a handling line (12) with one or more handling regions (14) for the surface treatment of said workpieces (22);~~

~~a guide device (44) along said handling line (12);~~

~~a second module having one or more carriages (20; 40; 60) to which said workpieces (22) may be fixed and which may be moved along said guide device (44);~~

~~wherein~~

~~various types of second module may each be combined with said first module, said first module further comprises~~

~~a first transfer station (18) that interacts with a first conveying means for supplying said workpieces (22) to be handled; and~~

~~a second transfer station (18) that interacts with a second conveying means (46) for removing said handled workpieces (22);~~

~~said carriages (20; 40; 60) comprise~~

~~an outer frame (26); and~~

~~an inner frame (28) that revolves around a rotary shaft (32) relative to said outer frame, whereby said workpieces (22) may be fixed to said inner frame (28);~~

~~said rotary shaft (32) of each carriage being disposed in an essentially horizontal and perpendicular manner in relation to the direction of movement of said carriages (20; 40; 60) along said handling line (12), and~~

further comprising a rotary drive (42) on each carriage, said rotary drive being connected at the output side in a rotationally rigid manner to said inner frame (28) of said carriages (40; 60).

20. (Currently Amended) A device according to claim 1, further comprising for modular construction for handling workpieces (22), in particular vehicle chassis (22), said device comprising

a first module having

a handling line (12) with one or more handling regions (14) for the surface treatment of said workpieces (22);

a guide device (44) along said handling line (12);

a second module having one or more carriages (20; 40; 60) to which said workpieces (22) may be fixed and which may be moved along said guide device (44); wherein

various types of second module may each be combined with said first module, said first module further comprises

a first transfer station (18) that interacts with a first conveying means for supplying said workpieces (22) to be handled; and

a second transfer station (18) that interacts with a second conveying means (46) for removing said handled workpieces (22);

said carriages (20; 40; 60) comprise

an outer frame (26);

~~an inner frame (28) that revolves around a rotary shaft (32) relative to said outer frame, whereby said workpieces (22) may be fixed to said inner frame (28);~~

~~said rotary shaft (32) of each carriage being disposed in an essentially horizontal and perpendicular manner in relation to the direction of movement of said carriages (20; 40; 60) along said handling line (12);~~

a travel drive (64) on each carriage for the translatory movement of said carriages (60) along said handling line (12);~~and~~

~~a said rotary drive (42) arranged for the generating rotational movement of said inner frame (28) relative to said outer frame (26);and~~

~~the translatory movement being independent of the rotational movement.~~

21. (Previously Presented) A device according to claim 19,

wherein the transfer of information and/or power from said first module to said carriages is effected contactlessly, particularly inductively.

Claims 22-33. Canceled

34.(Currently Amended) A device ~~according to claim 6, for modular construction for handling workpieces (22), in particular vehicle chassis (22), said device comprising a first module having a handling line (12) with one or more handling regions (14) for the surface treatment of said workpieces (22);~~

a guide device (44) along said handling line (12); and

a second module having one or more carriages (20; 40; 60) to which said workpieces (22) may be fixed and which may be moved along said guide device (44);

wherein

said first module is structured and arranged to cooperate and be combined with various types of said second module,

said first module further comprises

a first transfer station (18) that interacts with a first conveying means for supplying said workpieces (22) to be handled; and

a second transfer station (18) that interacts with a second conveying means (46) for removing said handled workpieces (22),

said first module further comprises

return means for conveying said carriages from said second transfer station (18) to said first transfer station (18), and

 said return means are in the form of a conveyor belt (70) or chain conveyor.

Claims 35-36. Canceled

37.(Previously Presented) A device according to claim 1, wherein

 said carriages (20; 40; 60) are structured and arranged to move along said guide device (44) with each said carriage (20; 40; 60) supporting an individual workpiece (22), and

 said second module is structured and arranged such that said one or more carriages (20; 40; 60) pivot about an axis (68) extending substantially parallel to a direction of movement (C) of the workpieces (22) along the handling line (12).

38.(Currently Amended) A device ~~according to claim 37, for modular construction for handling workpieces (22), in particular vehicle chassis (22), said device comprising~~
a first module having

a handling line (12) with one or more handling regions (14) for the surface treatment of said workpieces (22);

a guide device (44) along said handling line (12); and

a second module having one or more carriages (20; 40; 60) to which said workpieces (22) may be fixed and which may be moved along said guide device (44);

wherein

said carriages (20; 40; 60) are structured and arranged to move along said guide device (44) with each said carriage (20; 40; 60) supporting an individual workpiece (22),

said second module is structured and arranged such that said one or more carriages (20; 40; 60) pivot about an axis (68) extending substantially parallel to a direction of movement (C) of the workpieces (22) along the handling line (12), and

 said second module is structured and arranged such that said carriages (20; 40; 60) additionally pivot about an axis (32) extending substantially perpendicular to the direction of movement (C) of the workpieces (22) along the handling line (12).

39. (Previously Presented) A device according to claim 38, wherein said second module is structured and arranged such that said one or more carriages (20; 40; 60) pivot approximately 90° about said axis (68) extending substantially parallel to the direction of movement (C) of the workpieces (22) along the handling line (12).

40.(Previously Presented) A device according to claim 37, wherein said axis (68) is positioned to one side of said handling line (12) and regions (14) extending substantially parallel to the direction of movement (C) of the workpieces (22) along the handling line (12).